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10/085,649	02/26/2002	Andrew J. Whitton	091395-9214 (4596-TC-AU)	8642

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EXAMINER

FLANDRO, RYAN M

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 07/30/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/085,649

Applicant(s)

WHITTON ET AL.

Examiner

Ryan M Flandro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 7-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-11, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 12-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Drawings***

2. In light of Applicant's arguments (paper no. 6, page 3) regarding the objection to the drawings, the Examiner respectfully withdraws said objection.
3. The drawings are, however, further objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the bolt receiving recess being an "annular groove" must be shown or the feature(s) canceled from the claim(s) (see also section 4 below). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### ***Claim Objections***

4. In light of Applicant's amendment submitted 13 May 2003, the objections to claims 1, 2, 5, 6, 10, 12, 14 and 15 set forth in the previous Office action (paper no. 5) are hereby withdrawn.
5. Claim 8 is objected to because of the following informalities: use of the term "annular groove" in reference to the bolt receiving recess of the instant invention is inconsistent with the

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generally accepted definition of an annular groove. The common definition of annular is “of, like, or forming a ring.”<sup>1</sup> The bolt receiving recess of the instant invention is shown as a small recess on the periphery of the shaft and not as a groove that forms a ring around the circumference of the shaft. Appropriate correction is required.

6. Claim 9 is objected to because of the following informalities: recitation of the phrase “any associated feeling of proper interconnection” is informal language which includes very subjective terms. The Examiner suggests removal of this language. Appropriate correction is required. Further, as set forth in the previous Office action, reference to “the coupling element slot” in line 9 of the claim as amended should be changed to “the shaft-receiving slot” for consistency with recitation of such feature in lines 2-4 of the claim.

***Claim Rejections - 35 USC § 112***

7. In light of Applicant’s amendments to the claims, the rejections set forth in the previous Office action (paper no. 5) under 35 USC § 112, second paragraph, are hereby withdrawn.

***Claim Rejections - 35 USC § 102***

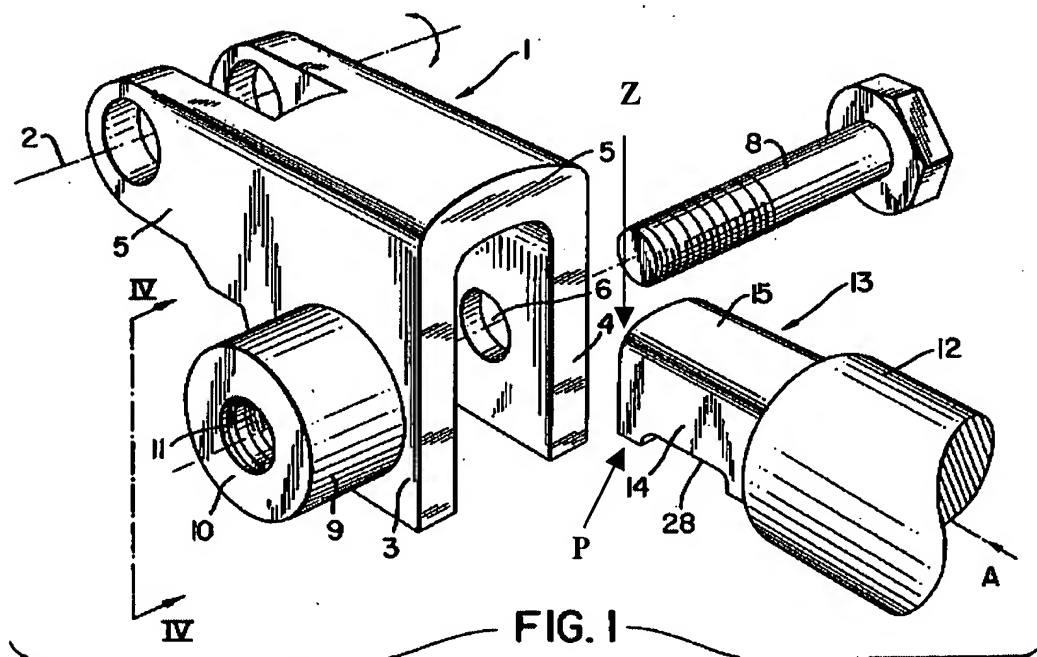
8. **Claims 1**, are rejected under 35 U.S.C. 102(b) as being anticipated by Oertle et al (US 5,090,833) (Oertle), cited in Applicant’s Information Disclosure Statement (paper no. 2).

a. Claim 1. Oertle shows and discloses a shaft **12** configured for interconnection with a coupling element **1**, the shaft **12** comprising an axial shaft body having upper and

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<sup>1</sup> Webster’s New World Dictionary of the American Language, Second College Edition, William Collins Publishers,

lower surfaces and terminating in a forward end **Z**; a bolt receiving recess **28** in the upper shaft surface adjacent the forward shaft end **Z**; and the shaft body forward end **Z** having a substantially planar surface except for at least one projection **P** extending from the shaft forward end **Z**, the at least one projection **P** having an upper surface contiguous with the upper shaft surface and positioned completely within an upper hemisphere of the shaft body (see annotated figure 1 below).



- b. Claim 2. Oertle further shows the shaft body 12 having a given cross-sectional area and the projection **P** having a cross-sectional area substantially less than the shaft body 12 cross-sectional area (see annotated figure 1 above).
- c. Claim 9. Oertle shows a shaft coupling assembly comprising a coupling element 1 including a shaft-receiving slot (created inside element 5) having a bottom surface and

a bolt receiving through bore 6 extending through the coupling element 1 perpendicular to the shaft-receiving slot at a distance X from the slot bottom surface; a retaining bolt 8 extendable through the coupling element bolt receiving through bore 6 such that the retaining bolt 8 extends at least partially into the shaft-receiving slot with a portion of the bolt at a distance X from the slot bottom surface; an axial shaft body 12 having upper and lower surfaces and terminating in a forward end Z configured to be inserted in the [shaft-receiving slot]; a bolt receiving recess 28 in the upper shaft surface adjacent the forward shaft end Z and configured to receive and retain the retaining bolt 8 after the shaft forward end Z is inserted in the shaft-receiving slot; and at least one projection P extending from the shaft forward end Z, the at least one projection P having an upper surface contiguous with the upper shaft surface and being spaced from the shaft lower surface a distance greater than X whereby the projection prevents improper clamping of the shaft forward end Z and any associated feeling of proper interconnection (see annotated figure 1 above). Although Oertle does not *explicitly* disclose that the projection P prevents improper clamping of the shaft forward end E and any associated feeling of proper interconnection, these features would be inherent based on the structure of Oertle.

d. Claim 10. Oertle further shows the shaft-receiving slot having a given cross-sectional area, the shaft body 12 having a cross-sectional area (that of section 13 of the shaft 12) substantially equal to the shaft-receiving slot cross-sectional area and the projection P having a cross-sectional area substantially less than the shaft-receiving slot 9 cross-sectional area (see annotated figure 1 above).

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- e. Claims 7 and 17. Oertle further shows the bolt receiving recess **28** being a notch (see annotated figure 1 above).

***Claim Rejections - 35 USC § 103***

9. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oertle, as applied above, in view of any one of Sekine et al (US 6,155,739) (Sekine), Yuzuriha et al (US 4,628,758) (Yuzuriha), or Wey (US 5,788,400). Oertle, as applied above, does not disclose that the projection **P** has a tapered tip. Any one of Sekine, Yuzuriha, and Wey, however, teach that it is common the art to taper the forward most end of a shaft to be inserted for implicit reasons such as reducing any sharp corners on the insertion end and/or allowing for easier insertion of the shaft into coupling member. See Sekine figure 7, Yuzuriha prior art figures 3 and 5, and Wey figures 1-3 and 5). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made modify the projection tip of Oertle by providing a taper in order to enhance insertion capabilities of the shaft as taught by any one of Sekine, Yuzuriha, or Wey.

10. Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oertle, as applied above, in view of any one of Yuzuriha or Pinna (US 4,899,611). Oertle, as applied above, lacks disclosure that the bolt receiving recess **28** is an annular groove. Any one of Yuzuriha or Pinna teaches that bolt receiving recesses in the form of an annular groove are common in the art (see Yuzuriha figures 5 and 7; Pinna figure 1). Yuzuriha, in particular, teaches that bolt receiving recesses in the form of notches and annular grooves are considered art

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recognized equivalents (see figures 3, 5, and 7; column 1 line 1- column 2 line 12). Inasmuch as the references disclose these elements as art recognized equivalents, it would have been obvious to one of ordinary skill in the exercise art to substitute one for the other. *In re Fout*, 675 F.2d 297, 301, 213 USPQ 532, 536 (CCPA 1982).

### ***Response to Arguments***

11. Applicant's arguments with respect to claims 1-3 and 7-19 have been considered but are moot in view of the new ground(s) of rejection.

### ***Allowable Subject Matter***

12. Claims 12-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter:

- a. Claim 12. The prior art, including Oertle, Pinna, Yuzuriha, Sekine, and Wey, either alone or in combination, fails to show or teach the projection being equal to or greater in length than the distance from an opening to the shaft-receiving slot to the bolt receiving through bore.
- b. Claims 13-16. The prior art, including Oertle, Pinna, Yuzuriha, Sekine, and Wey, either alone or in combination, fails to show or teach a second projection. Claims 14-16 depend from claim 13 and are, therefore, allowable for the same reason.



***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to shaft assembly safety mechanisms:

U.S. Patent 4,537,523 to Haldric (provides general device to detecting the position of a shaft inserted into a coupling element)

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan M Flandro whose telephone number is (703) 305-6952. The examiner can normally be reached on 8:30am - 5:30pm Mon-Fri.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on (703) 308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Ryan M. Flandro  
July 27, 2003



**Lynne H. Browne**  
***Supervisory Patent Examiner***  
**Technology Center 3670**